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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,349	01/05/2001	Donald E. Woodmansee	9038-120000	3971

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EXAMINER

PERRIN, JOSEPH L

ART UNIT PAPER NUMBER

1746

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

CR

Office Action Summary	Application No.	Applicant(s)	
	09/755,349	WOODMANSEE ET AL.	
	Examiner	Art Unit	
	Joseph L. Perrin, Ph.D.	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 11-12 & 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,423,152 to Landaas in view of US 5,011,540 to McDermott.

Landaas teaches a cleaning apparatus for hollow cleaning site structure A having a gas inlet (gas source) 16, a mixing chamber 18 connected to the structure by a coupling, a control arrangement (construed as a valve) 17 coupling the gas source to the mixing chamber, an expansion separator 33 for separating the gas and liquid/particulate mixture, a filter 7 coupled to the separator, a measuring unit (rotameter) 5, coupled to the filter, and gas and liquid return ducts to recycle the gas and liquid to create a closed-loop system (see entire reference of Landaas, for instance, Figure 3 and col. 3, lines 10-65). Landaas also teaches that it is known to utilize water and air as the cleaning liquid and gas, respectively, in such an apparatus (see, for instance, col. 1, line 65 to col 2, line 3). Re claims 12 & 20, Landaas further teaches introducing the gas and liquid via "quantity-controlled 16,21 inlets" (see col. 3, lines 14-18) which inherently must include gas and liquid valves in order to control the quantity of gas or liquid introduced. Although Landaas does disclose injecting cleaning liquid and cleaning gas into a mixing chamber and that it is advantageous to apply the

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cleaning liquid from the mixing chamber as an aerosol fog, (see, for instance, col. 4, lines 5-6), Landaas does not expressly disclose a liquid misting means (e.g. spray head or nozzle) at the gas/liquid mixing interface, in the instant case the mixing chamber.

Re claims 11 & 19, McDermott teaches that it is known to provide a liquid nozzle (spray head) at the gas/liquid interface to achieve a "cloud of cleaning fluid" which more uniformly cleans a compressor of gas turbine engines relative to typical spray cleaning (see entire reference of McDermott, for instance, col. 1, line 66 – col. 2, line 54).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the cleaning system and mixing chamber including an aerosol fog, disclosed by Landaas, with a nozzle/spray head for creating an aerosol fog (mist), as disclosed by McDermott, for the purpose of creating a cleaning liquid mist or "cloud" to achieve improved and more uniform cleaning of a gas turbine system.

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Landaas and McDermott, as applied above, and further in view of US 5,954,911 to Bergman *et al.* (hereinafter "Bergman").

Recitation of Landaas and McDermott are repeated here from above.

However, Landaas and McDermott do not expressly teach a gas filter and heater.

Bergman teaches that it is known to utilize a gas filter 297 and gas heater 299

prior to mixing a gas and liquid in a gas/liquid cleaning system (see, for instance, Figure 4 and col. 9, lines 58-67).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the cleaning system, disclosed by Landass and McDermott, with the gas filter and heater, disclosed by Bergman for the purpose of preventing contaminants from entering the cleaning system and maintaining purging of the vapor/mist and drying of the structure to be cleaned.

4. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landaas and McDermott, as applied above, and further in view of US 4,752,399 to Viator *et al.* (hereinafter "Viator").

Recitation of Landaas and McDermott are repeated here from above. Although Landaas does disclose means for separating gas and liquid (*i.e.* an expansion separator), Landaas does not expressly disclose using a heat exchanger to separate gas and liquid. Viator teaches that it is known to use a heat exchanger to cool and separate gas/liquid mixtures (see, for instance, col. 3, lines 30-33).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the gas/liquid separating means disclosed by Landaas with the cooling gas/liquid separating means (heat exchanger) disclosed by Viator for the purpose of

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separating a gas/liquid mixture through cooling by condensing gaseous phase liquids.

Response to Arguments

5. In view of applicant's amendment filed 03 March 2004, the status of the application is as follows:

35 U.S.C. §103(a) Rejections over Landaas and McDermott

The rejection of claims 11, 12, 18 and 19 are maintained for reasons set forth below:

Applicant's argue that "the teachings of McDermott and Landaas are not compatable", this is not persuasive because the references are within the realm of one of ordinary skill in the cleaning arts. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Landaas implicitly discloses a nozzle/spray head through the injection of liquid into the mixing chamber and utilization of an "aerosol fog" (see above citation of Landaas). McDermott teaches that it is known to utilize nozzles/spray head at the gas/liquid

interface to achieve a “cloud of cleaning fluid” which more uniformly cleans a compressor of gas turbine engines relative to typical spray cleaning (see above citation of McDermott). Accordingly, an artisan of ordinary skill would recognize such spray means as mist generating means for achieving improved, uniform cleaning.

Applicant further argues that McDermott teaches away since McDermott does not teach generating a mist in a mixing chamber. This is not persuasive because McDermott was cited for the teaching of generating a mist at a gas/liquid interface. Landaas also discloses such feature. Thus, the differences in the references do not teach away from the obviousness rejection. Even if, *arguendo*, one were to consider McDermott as teaching away, it has been held that a prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

In response to applicant’s argument that “lines 5-8 in column 4 of Landaas state that liquid is brought to aerosol fog from after the mixing head 18” and that “there would be no reason or motivation to modify the mixing head to create a cloud”, this is not persuasive because one of ordinary skill in the art would recognize that 1) col. 4, lines 5-8 are directed to an additional embodiment of Landaas, and 2) the combination of bringing the liquid to “aerosol fog form” after the mixing head in a second embodiment, and mixing the liquid and gas in the

mixing head in a first embodiment implicitly teaches forming the aerosol fog either before or after the mixing head.

Applicant's arguments towards claims 12 & 20 are considered moot since they include new limitations not yet properly before the office. Such rejections, if made, will address the new limitations.

35 U.S.C. §103(a) Rejections over Landaas, McDermott, Bergman & Viator

The rejection of claims 13 & 14-17 are maintained for reasons set forth below:

Applicant argues that since Landaas in view of McDermott fail to render claim 11 unpatentable, the rejections further in view of Bergman (claim 13) and Bergman & Viator (claims 14-17) fail to render the claims unpatentable. This is not persuasive because the rejection of claims 11-12 & 18-19 over Landaas & McDermott is a proper rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
7. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is (571)272-1305. The examiner can normally be reached on M-F 7:00-4:30, except alternate Fridays.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph L. Perrin, Ph.D.
Examiner
Art Unit 1746

jlj


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